They showed a different degree of reduction and were stored for different periods. A storing in an air-dried state reduced the reduction power of legumin, which apparently was gradually oxidized by atmospheric oxygen. Table 2 shows results of the experiments dealing with the oxidation velocity of glycinin. The authors are of opinion that the oxidation by $K_3Fe(CN)_6$ is accompanied by the same effects of atmospheric oxygen, which fact is proved by Table 3. The movable oxygen of organic substances (N-oxidized alkaline form) has the same effect. The possibility of the formation of peroxides can be assumed as explanation (Ref 3). The conducted experiments proved this assumption. Tables 4 and 5 show, however, that glycin and edestin consume smaller quantities of H_2O_2 than the initial proteins, when they are reduced. This phenomenon has hitherto not been cleared up. Nevertheless it is possible to draw the conclusion that the reserve proteins of the seeds enriched with oxygen can take part in several metabolic processes in the cell, among them in respiration, by means of binding the free oxygen. There are 5 tables and 6 references, 6 of which are Soviet.

Self-Oxidation of Reserve Proteins Enriched With Hydrogen SOV/20-120-3-39/67

PRESENTED: January 18, 1958, by A. I. Oparin, Member, Academy of Sciences, USSR

SUBMITTED: January 18, 1958

1. Proteins--Oxidation 2. Proteins--Physiological effects
3. Proteins--Properties

Card 3/3

EMANUEL', N.M.; GORBACHEVA, L.B.; SOKOLOVA, I.S.

Inhibition of protein synthesis in Ioshida ascitic hepatoma cells by substances inhibiting free-radical prodesses. Dokl. AN SSSR 134 no.6:1475-1477 O '60. (MIRA 13:10)

1. Institut khimicheskoy fiziki Akademii nauk SSSR. 2. Chlen-korrespondent AN SSSR (for Emanuel').
(TUMORS) (PROTEIN METABOLISM) (GALLIC ACID)

GORBACHEVA, L.B., EMANUEL, N.M. (USSR)

"Suppression of Cell Protein Biosynthesis in Yoshida Ascites Hepatoma by Free-Radical Reaction Inhibitors."

Report presented by the 5th Biochemistry Congress Moscow, 10-16 Aug 1961.

KUKUSHKINA, G.V.; GORBACHEVA, L.B.; EMANUEL', N.M.

Kinetic characteristics of the inhibition of protein biosynthesis in cancer cells treated with alkyl phenols and chlorampenicol. Dokl. AN SSSR 146 no.5:1206-1208 O '62. (MIRA 15:10)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Emanuel').
(CHLORAMPHENICOL—PHYSIOLOGICAL EFFECT) (PHENOLS—PHYSIOLOGICAL EFFECT)

KUKUSHKINA, G.V.; GORBACHEVA, L.B.; EMANUEL', N.M.

Differences in the nature of the suppression of protein biosynthesis in cancerous cells by oxyaromatic compounds and alkylating agents. Dokl. AN SSSR 147 no.5:1218-1219 D '62. (MIRA 16:2)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Emanuel').
(PROTEINS) (BIOSYNTHESIS) (CANCER)

ACC NR: AP6032114 SOURCE CODE: UR/0301/66/012/005/0452/0455

AUTHOR: Kukushkina, G. V.; Gorbacheva, L. B.; Emanuel', N. M.

ORG: Institute of Chemical Physics, Academy of Sciences SSSR, Moscow (Institut khimicheskoy fiziki AN SSSR)

TITLE: Inhibition of the biosynthesis of protein and nucleic acids by phenolic compounds in vivo

SOURCE: Voprosy meditsinskoy khimii, v. 12, no. 5, 1966, 452-455

TOPIC TAGS: biochemistry, biosynthesis, protein ~~synthesis~~, nucleic acid, ~~nucleic acid synthesis~~, phenol derivative, metabolic effect, ionole

ABSTRACT: *In vivo* experiments on mice affected with Erlich ascites tumor and hepatoma XXII showed that the phenol derivatives propylgallate and ionole (4-methyl-2,6-di-tert-butyl-phenol) inhibited protein and nucleic acid synthesis in some organs and tissues. Propylgallate did not affect protein biosynthesis in normal kidney tissue but was effective against cancerous tissue. A 200 mg/kg dose of ionole suppressed uptake of C_{14} labeled amino acids almost completely. Further experiments showed that the cellular nucleic acid fractions from cancerous cells were the most sensitive to the action of these compounds. [WA-50; CBE No. 12]

SUB CODE: 06/ SUBM DATE: 19Nov64/ ORIG REF: 014/ OTH REF: 002/
UDC: 615.778.1-092:612.015.348-064+616.015.348.014.46-064:615.778.1

Card 1/1

GRANDBERG, I.I.; GORBACHEVA, L.I.; KOST, A.N.

Pyrazoles. Part 32: Mobility of halogen in a pyrazole ring.
Zhur.ob.khim. 33 no.2:511-515 F '63. (MIRA 16:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Pyrazole) (Halogens)

GRANDBERG, I.I.; GORBACHEVA, L.I.; KOST, A.N.; SIBIRYAKOVA-FEDOTOVA, D.V.

Pyrazoles. Part 33: Oxidative elimination of a benzyl group and interaction of the Gringnard reagent with halopyrazoles. Zhur.ob.khim. 33 no.2:515-519 F '63. (MIRA 16:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Benzyl group) (Grignard reagents) (Pyrazole)

GORBACHEVA, L.I.; GRANDBERG, I.I.; KOST, A.N.

Pyrazoles. Part 40: Kinetic studies of the mobility of a halogen bound to the purazole ring. Zhur.ob.khim. 34 no.2:650-654 F '64. (MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

L 7844-66 EWP(e)/EPA(s)-2/EWT(m)/EWP(i)/EPA(w)-2/EWP(t)/EWP(b) IJP(c)
ACC NR: AP5028112 JD/WH SOURCE CODE: UR/0048/65/029/011/2026/2028

AUTHOR: Gorbacheva, L. K.; Prokopalo, O.I.

ORG: Rostov-on-the Don State University (Rostovskiy-na-Donu gosudarstvennyy universitet)

TITLE: Mechanism of slow polarization processes in barium titanate (Report, Fourth All-Union Conference on Ferro-electricity held at Rostov-on-the Don 12-16 September 1964)

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 11, 1965, 2026-2028

TOPIC TAGS: ferroelectric material, barium titanate, single crystal, polycrystal, dielectric constant, electric polarization

ABSTRACT: The authors have measured the ratio P/V of the slow polarization emf to the polarizing voltage and the dc dielectric constant d of a number of barium titanate single crystals and polycrystalline specimens which were subjected to a polarizing field and subsequently short circuited for definite lengths of time. The experimental technique is described elsewhere (O.I.Prokopalo, Sb.Segnetoelektriki, str. 112, Izv. Rostovsk. un-ta, 1961). The polycrystalline specimens were from 1 to 8 mm thick and were prepared by the usual technique; the single crystals were 0.5 mm thick and were grown from a melt in KF. Fired on silver electrodes were employed and the measuring field was varied from 10 to 80 V/cm. The ratio P/V for polycrystalline

Card 1/2

L 7844-66
ACC NR: AP5028112

materials was approximately independent of the thickness of the specimen, but d increased rapidly with increasing thickness. Both d and P/V for polycrystalline materials were independent of the measuring field strength, but P/V for single crystals decreased with increasing field strength. The slow polarization processes were found to be weaker and to develop more slowly in single crystals than in polycrystalline materials. These results are discussed briefly in terms of an equivalent circuit which has been presented elsewhere (O.I.Prokopalo, Fiz. tverdogo tela, 2, No. 2, 302 (1960)), and it is concluded that both volume effects and processes taking place in the vicinity of the electrodes contribute significantly to the slow polarization, but that the volume effects are the more important. The difference between the behaviors of single crystals and polycrystalline materials in fields of different strengths is not understood. Orig. art. has: 4 figures.

SUB CODE: SS, EM SUBM DATE: 00/ ORIG REF: 006 OTH. REF: 001

Card 2/2

GORBACHEVA, L.K.; PROKOPALO, O.I.

Mechanism underlying slow polarization processes in barium titanate. Izv. AN SSSR. Ser. fiz. 29 no.11:2026-2028 N '65. (MIRA 18:11)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.

KNIGINA, G.I., doktor tekhn.nauk; GORBACHEVA, L.N., inzh.

Study of the process of gas generation during the expansion of easily fusible clay. Stroi. mat. 9 no.4:28-29 Ap '63. (MIRA 16:5)

(Clay)

GORBACHEVA, L.N., inzh.

Dependence of kinetics and parameters of degassing in the process of the expansion of clays on their granulometric and mineralogical composition. Trudy NIIStroikeramiki no.21:86-98 '63.
(MIRA 17:2)

TEPLITSKAYA, Ye.S.; MALAYA, L.P.; MIRGORODSKAYA, A.K.; SHEYKO, Z.A.; KOGAN, TS.I.; OSIPOVA, Ye.S.; GIRGORASH, N.G.; PANKRATOVA, V.S.; GORBACHEVA, L.Ye.

Species of dysentery pathogens encountered in 1959 in certain regions of Dnepropetrovsk Province and their sensitivity to the dysentery bacteriophage and antibiotics. Vrach. delo no.9:116-118 S '61. (MIRA 14:12)

(DNEPROPETROVSK PROVINCE--SHIGELLA)
(BACTERIOPHAGE) (ANTIBIOTICS)

KACHANOVA, Ye.Ye., GOREACHEVA, M.A., PETROCHENKO, N.A., KHOLODOK, A.N.

Hygienic evaluation of storage conditions and quality of breast milk at a donor center [with summary in English]. Pediatriia 36 no.10:14-20 O '58 (MIRA 11:11)

1. Iz sanitarno-epidemiologicheskoy stantsii Dzerzhinskogo rayona Leningrada.

(MILK, HUMAN,
donor centers, determ. of milk quality & hyg. evaluation of storage cond. (Rus))

BABIN, V.B.; KOFMAN, I.L.; MANEVICH, A.Z.; MIKHEL'SON, V.A.; GORBACHEVA, M.P.; YUREVICH, V.M.

Comparative evaluation of ether concentration in the blood in pure and in combined ether-oxygen anesthesia. Trudy 1-go MMI 33:324-332 '64. (MIRA 18:3)

GORBACHEVA, N.A.

Isolation, detection and determination of antabus in cadaver material. Aptech. delo 12 no.3:39-44 My-Je'63 (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut sudebnoy meditsiny Ministerstva zdravookhraneniya SSSR.

GORBACHEVA, N. A.

FA 18/49T3

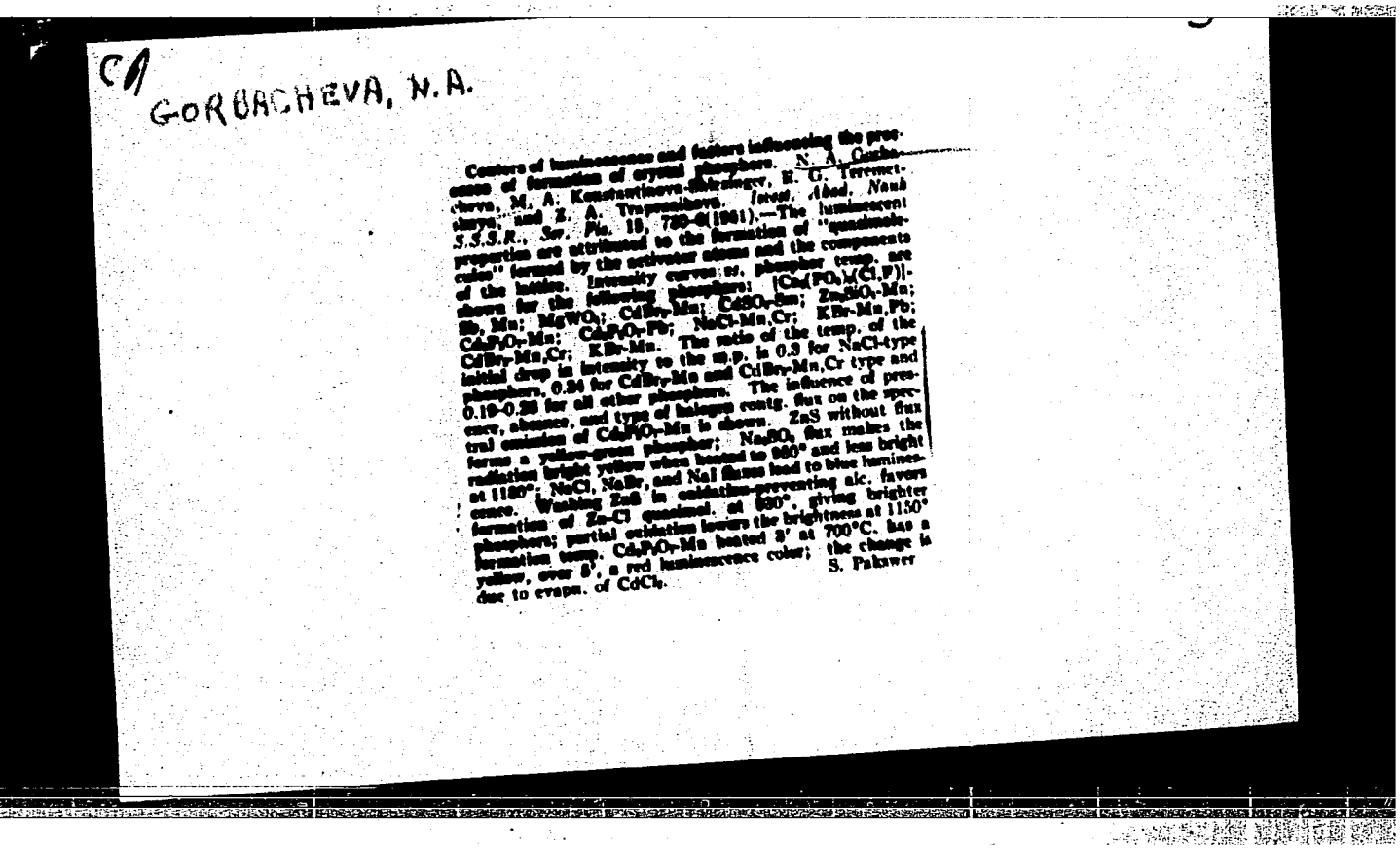
USSR/Chemistry - Chromatography Jul/Aug 48
Chemistry - Analysis

"The Theory of Chromatographic Analysis," M. A. Konstantinova-Shlezinger, N. A. Gorbacheva, Phys Inst imeni Lebedev, Acad Sci USSR, Moscow Phar Inst, 7 pp

"Zhur Analit Khimii" No 4

Presents basic theory of subject developed by M. S. Tsvet. Derives equations representing chromatographic processes, and applies them to practical cases. Submitted 17 Apr 48.

18/49T3



CA

GORBACHEVA, N.A.

Centers of luminescence and factors influencing the processes of formation of crystal phosphors. N. A. Gorbacheva, M. A. Konstantinova-Shlezinger, E. G. Trevnetcheva, and Z. A. Trapeznikova. *Inst. Akad. Nauk S.S.S.R., Sov. Fiz.* 10, 720-6(1961).—The luminescent properties are attributed to the formation of "quasimolecules" formed by the activator atoms and the components of the lattice. Intensity curves vs. phosphor temp. are shown for the following phosphors: $[Ca_5(PO_4)_3(Cl,F)]$-Sb, Mn; $MgWO_4$; $CdBr_2$-Mn; $CaSO_4$-Sm; $ZnSiO_4$-Mn; $CdSiO_3$-Mn; $CdSiO_3$-Pb; NaCl-Mn,Cr; KBr-Mn,Pb; $CdBr_2$-Mn,Cr; KBr-Mn. The ratio of the temp. of the initial drop in intensity to the m.p. is 0.3 for NaCl-type phosphors, 0.34 for $CdBr_2$-Mn and $CdBr_2$-Mn,Cr type and 0.19-0.28 for all other phosphors. The influence of presence, absence, and type of halogen contg. flux on the spectral emission of $CdSiO_3$-Mn is shown. ZnS without flux forms a yellow-green phosphor; $NaBO_2$ flux makes the radiation bright yellow when heated to 980° and less bright at 1180°; NaCl, NaBr, and NaI fluxes lead to blue luminescence. Washing ZnS in oxidation-preventing alc. favors formation of Zn-Cl quenchers at 980°, giving brighter phosphors; partial oxidation lowers the brightness at 1150° formation temp. $CdSiO_3$-Mn heated 8' at 700°C. has a yellow, over 8', a red luminescence color; the change is due to evapn. of CdCl₂. S. Pakswer

cA

Particularities of the luminescence of the $Cd_2P_2O_7$-Mn, Pb phosphor. N. A. Gorbacheva (P.N. Lebedev Phys. Inst. Acad. Sci. U.S.S.R., Moscow). *Zhur. Eksptl. Teoret. Fiz.* 21, 305–9(1951).—The phosphor was made by fusion of 1 part $Cd_2P_2O_7$, 6×10^{-4} $Pb(NO_3)_2$, 5×10^{-3} Mn phosphate, 2×10^{-3} CdF_2, in the absence of Cl^- and SO_4^{--}, and heating 30 min. at 900°; it contains a slight excess of P over the formula. In excitation with 254 mμ, the emission is initially orange-rose, then veers to white. If, after a 1st excitation, the phosphor is left in the dark for sometime, and then excited again, one observes an initial reddish flash of an intensity substantially greater than the stationary brightness. $Cd_2P_2O_7$ activated with Mn alone shows only reddish, and with Pb alone, only white-bluish luminescence. The observations are consistent with Antonov-Romanovskii's doctrine of emission under the very action of the exciting light which lifts electrons from certain local levels and thus leaves them unfilled; on interruption of the excitation, these levels become occupied by electrons thermally liberated from other levels. On 2nd excitation, these trapped electrons are again liberated, thus giving rise to a flash; the necessary condition is that the phosphor be left in the dark between the 2 excitations. In expts. with a 1st 2-min. excitation, followed by a 5-min. dark period, with sep. measurements of the "Mn emission band" (transmitted through a red filter) and of the "Pb band" (green filter), the brightness of the Mn-band flash on 2nd excitation was found to be greater the more intense the 1st excitation, and its length (i.e. the time for attainment of the stationary) shorter. The flash is absent in phosphors which have completed the emission; under these conditions, 2nd excitation results only in normal growth of the brightness. This is taken as evidence that the Mn-band flash on 2nd excitation is brought about by the action of light itself. The Pb band shows no flash, and decays faster than the Mn band. Over the decay, the Pb band loses all the light stored, whereas on heating only the Mn band is emitted. However, the curves of growth of the brightness of the Pb band in 1st and in 2nd excitation do not coincide; at the initial stages, the intensity is distinctly higher on 2nd excitation. This means that the growth of the Pb band is influenced by the energy stored in the Mn band, or, more accurately, depends on the no. of electrons still remaining in deep levels after the 5-min. post-phosphorescence. The cause of the different behaviors of the Pb and Mn bands does not follow from the simple recombination mechanism; there must be an added factor, specifically unimol. quenching in the Pb centers. This is borne out by the near-exponential character of the decay of the Pb band. Inasmuch as the Mn band suffers no quenching, its law of decay should be essentially hyperbolic, and this is confirmed. The singly activated $Cd_2P_2O_7$-Pb phosphor decays hyperbolically, $I = (a + bt)^{-n}$, with n somewhat > 1, the same in both the red- and the green-filtered band. Consequently, in contrast to its behavior in the doubly activated phosphor, the Pb band in the singly activated phosphor suffers no unimol. quenching. The singly activated $Cd_2P_2O_7$-Mn phosphor also differs from the doubly activated $Cd_2P_2O_7$-Mn,Pb by the absence of a flash on 2nd excitation. This shows that in $Cd_2P_2O_7$-Mn,Pb the flash is detd. by an interaction between the 2 activators; the quenching of the Pb band must be due to Mn, and the deep levels responsible for the flash depend on the simultaneous presence of both Mn and Pb. This is corroborated by the curves of thermally induced phosphorescence of the 2 singly and the doubly activated phosphors. The Pb phosphor has a low peak at about 60°, the Mn phosphor a higher peak at about 120°, the Mn,Pb phosphor the highest peak at about 200°. Consequently, the level scheme of the Mn, Pb phosphor cannot be represented as any linear combination of the levels of the 2 singly activated phosphors.

N. Thon

GORBACHEVA, N. A.

USSR/Physics - Luminophores Nov 52

"Characteristics of a Class of Photoluminophores on Sulfate Base," M. A. Konstantinova-Shlezinger, N. A. Gorbacheva and Ye. I. Panasyuk, Phys Inst imeni Lebedev, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol 23, No 5, pp 588-592

Curves of extinction and of thermal glowing time of phosphor $PbSO_4Sm$ with various fusibles and curves of glowing time of phosphor $CdSO_4$ with activators Mn, Pb, MnPb, and of phosphor $PbSO_4$ with double activator SmCe were plotted. Indebted to Prof V. L. Levshin. Received 18 Jun 52.

236T86

GORBACHEVA N.A.

48-5-22/56

SUBJECT: USSR/Luminescence

AUTHOR: Gorbacheva N.A.

TITLE: Photoluminophores Based on Phosphates (Fotolyuminofory na osnove fosfatov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #5, pp 682-683 (USSR).

ABSTRACT: Over 40 phosphate luminophores have been produced. Luminophores synthesized of cadmium phosphates, which were obtained at different pH of the final solution, vary considerably in luminosity and decay time.

The concentration of an activator affects the luminescence spectrum. It was established that the most luminous luminophores are produced by using as a base the cadmium phosphate obtained at room temperature from a solution whose pH-value was 5.

The investigation allowed to recommend the following phosphate luminophores for luminescence tubes: barium-titanium-phosphate, whose spectrum is equal to magnesium tungstate; calcium ortho-

Card 1/2

48-5-22/56

TITLE: Photoluminophores Based on Phosphates (Fotolyuminofory na osnove fosfatov)

phosphate with cerium and manganese as activators, and calcium orthophosphate with tin and manganese, as activators, which can be used in luminescent tubes to make up deficient emission in the red region of spectrum.

There is a ground to assume that phosphate luminophores will take one of the first places among the tube luminophores.

The report was followed by a short discussion.

One Russian reference is cited.

INSTITUTION: Physical Institute im. Lebedev of the USSR Academy of Sciences

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 2/2

GORBACHEVA, N.A.: Master Chem Sci (diss) -- "Photoluminophores based on the phosphates of cadmium". Moscow, 1958. 10 pp (Acad Sci USSR, Inst of Gen and Inorganic Chem im N.S. Kurnakov), 150 copies (KL, Nc 1, 1959, 114)

BATUNER, L.M.; GORBACHEVA, N.A.

Model analysis of ion exchange filters. Trudy Len. khim.-farm. inst. no.4:52-60 '58. (MIRA 12:12)
(Ion exchange) (Filters and filtration)

GORBACHEVA, M.A., aspirant

Use of trilon B in determining zinc in biological material. Apt. delo 7 no.1:25-28 Ja-F '58. (MIRA 11:2)

1. Iz kafedry sudebnoy khimii (rukovoditel' - prof. M.D.Shvaykova) Moskovskogo farmatsevticheskogo instituta.
(ACETIC ACID) (ZINC)

GORBACHEVA, N.A.

5(2),(3) PHASE I BOOK EXPLOITATION SOV/2554

Akademiya nauk SSR. Otdeleniye khimicheskikh nauk. Komissiya po khromatografii

Issledovaniya v oblasti ionoobmennoy, raspredelitel'noy i osadochnoy khromatografii (Studies in the Field of Ion Exchange, Distribution and Precipitation Chromatography) Moscow, Izd-vo AN SSSR, 1959. 150 p. Errata slip inserted. 3,500 copies printed.

Ed. of Publishing House: N.G. Yegorov; Tech. Ed.: I.N. Guseva; Editorial Board: K.V. Chmutov, Corresponding Member, USSR Academy of Sciences (Resp. Ed.); P.M. Shemyakin, Professor; K.M. Ol'shanova, Professor; K.M. Saldadze, Docent, and N.N. Tunitskiy, Professor.

PURPOSE: This book is intended for chemists and chemical engineers.

COVERAGE: The book discusses studies in ion-exchange, distribution, and precipitation chromatography. Various problems of the theory of chromatography and its application are also considered. This is the 4th collection of articles published by the Committee on Chromatography. The first collection was published in 1952 under the title: "Issledovaniya v oblasti khromatografii" (Studies in the Field of Chromatography); the second was published in 1955 under the title "Teoriya i praktika primeneniya ionoobmennykh materialov" (Theory and Practice of the Use of Ion-exchange Materials); and the third was published in 1957 under the title "Issledovaniya v oblasti ionoobmennoy khromatografii" (Studies in the Field of Ion-exchange Chromatography). No personalities are mentioned. References are given after most of the articles.

Davydov, A.T. and G.M. Lisovina. Study of the Sorption Value and the Exchange Energy of Cations on Wofatite With Relation to Temperature 21

Rachinskiy, V.V. Theory of the Stationary Front of Dynamic Sorption 24

Saldadze, K.M., and Ye. N. Fedotova. Effect of the Ionite Structure on the Ion Exchange Process 39

Saldadze, K.M., and Ye. A. Shemina. Kinetics of Cation Exchange Processes on Carboxylic Cationites 48

Surt, L.R., and P.M. Shemyakin. Purification of Salts With the Aid of an Ion-exchange Counterflow Installation 55

Fedoseyeva, O.P., N.N. Tunitskiy, and Ye. P. Cherneva. Study of the Kinetics of Complete Cation Exchange on Sulfonated Resins 63

Cherneva, Ye. P., A. B. Pashkov, S.R. Barabanov, and N.N. Tunitskiy. Change in the Selectivity of Strongly Acidic Monofunctional Cationites in Relation to the Concentration of Sulfo Groups and Interchain Bonds in Cationites 70

Fedoseyeva, O.P., Ye. P. Cherneva, and N.N. Tunitskiy. Study of the Diffusion of Ions Through a Cationite Membrane 76

Shemyakin, P.M. Organic Reagents Used in Adsorption and Distribution Chromatography, Their Classification, and Trends of Investigation 80

Mitselovskiy, Ye.S., and P.M. Shemyakin. Some New Phenomena Which Accompany the Process of Electromigration of Organic Substances 90

Polyanskiy, N.G. Study of Thermal Desulfonation of Sulfophenolformaldehyde Resin KU-1 95

Kopylova, V.D., and K.M. Ol'shanova. Precipitation Chromatography 105

Kopylova, V.D., and K.M. Ol'shanova. Secondary Phenomena in Precipitation Chromatography 113

Ol'shanova, K.M., and M.M. Morosova. Determination of Calcium by the Precipitation Chromatography Method With the Indicator Murexide 124

Ol'shanova, K.M., and Z.A. Koloskova. Ion-exchange Paper Chromatography in Qualitative Analysis 128

Grigor'yeva, M.V. Chromatographic Method of Qualitative Analysis for Fur Dyestuffs 134

Saldadze, K.M., K.M. Ol'shanova, and I.I. Ivanova. Sorption of Mineral Acids and of Their Salts on Cationites 138

Gorbacheva, N.A., and K.M. Saldadze. Absorption of Complex Zinc Anions on Anionites With Different Basicity 143

GORBACHEVA, N.A.

Chromatographic separation of zinc from biological material in legal medical investigations. Report no.1: separation of zinc from some elements by means of anion exchange chromatography. Sud.-med.ekspert. 3 no.4:35-40 O-D '60. (MIRA 13:11)

1. Kafedra sudebnoy khimii (zav. - prof. M.D.Shvaykova) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.
(ZINC)
(CHROMATOGRAPHIC ANALYSIS)

BELOVA, A.V.; GORBACHEVA, N.A.; SHVAYKOVA, Mariya Dmitriyevna, prof.; SHEVERDYAYEVA, V.M.; RUBTSOV, A.F., kand.farmatsevticheskikh nauk, retsenzent; YASKINA, D.Z., kand.farmatsevticheskikh nauk, retsenzent; KOZULIN, V.S., red.; RAYKO, N.Yu., tekhn.red.

[Manual on the practical studies of forensic chemistry for pharmacology correspondence students of institutions of higher learning] Rukovodstvo k prakticheskim zaniatiiam po sudebnoi khimii; dlia studentov-zaochnikov farmatsevticheskikh vuzov. Pod obshchei red. M.D.Shvaikovoi. Moskva, I-i Mosk.med.in-t im. I.M.Sechenova, 1961. 101 p. (MIRA 14:6)

1. Kafedra sudebnoy khimii farmatsevticheskogo fakul'teta 1-go Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova (for Belova, Gorbacheva, Shvaykova, Sheverdyayeva).
(PHARMACOLOGY—LABORATORY MANUALS)
(CHEMISTRY, LEGAL)

GORBACHEVA, N.A.

Chromatographic isolation of zinc from biological material in forensic chemical studies; report No.2. Sud-med. ekspert. 4 no.3:39-42 Jl-S '61. (MIRA 14:10)

1. Kafedra sudebnoy khimii (zav. - prof. M.D.Shvaykova) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.
(CHROMATOGRAPHIC ANALYSIS) (ZINC IN THE BODY)

S/048/61/025/004/004/048
B104/B201

24,3500

AUTHORS: Gorbacheva, N. A. and Osiko, V. V.

TITLE: Valence of Sn and Mn activators in crystal phosphors

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 4, 1961, 454-455

TEXT: The present paper has been read at the 9th Conference on Luminescence (Crystal Phosphors), Kiyev, June 20-25, 1960. The authors have studied the relationship between the luminescence properties of Sn- and Mn-activated luminophores and the valence of these activators. The mean valences of Sn have been determined polarographically, and those of Mn by colorimetric and iodometric methods of analysis. Detailed results on Mn-activated luminophores have been earlier published by Osiko et al. (Ref. 1: Osiko, V. V., Maksimova, G. V., Optika i spektroskopiya, 9, vyp. 4). It is noted here that the relationship between the luminescence properties and the mean valence of Mn permits the luminophores under investigation to be classified into three groups. The valence of Sn has been studied on a group of phosphate phosphors. Results are presented in

Valence of Sn and Mn...

S/048/61/025/004/004/048
B104/B201

Table 1. Tin is shown to be in the bivalent state in all luminophores, regardless of the differences in the luminescence spectra. An oxidation of tin, causing it to pass over into the tetravalent state, and also its reduction to the elementary state, cause luminescence to disappear. It has been further established that a reducing atmosphere is not in all cases necessary to produce a bivalent tin: some luminophores are produced also by sintering in the air. Their composition includes, however, a reducing agent (ammonium salts which are decomposed at t = 1000°C with hydrogen being liberated). In the study of the relationship between valence of the activator in the luminophore and the temperature, on the one hand, and sintering in air and concentration of the activator, on the other, the authors examined the system ZnO-MnO-O_2 which was regarded as a physico-chemical model of a luminophore. The specimens produced from mixtures of ZnO and MnO_2, were sintered at different temperatures in an oxygen flow or in a nitrogen flow purified from oxygen. The mean valence of Mn was determined on the resulting specimens. Results are presented in Fig. 1. It shows that the mean valence of Mn is strongly dependent, under equal conditions, on the relative Mn content. It may be also seen that up to a given concentration, the mean valence is 2 and independent of the sintering

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Valence of Sn and Mn...

atmosphere. This confirms that in this case the valence of Mn is determined by the crystallochemical structure. It also follows that one and the same luminophore may have, under otherwise equal conditions of production, a different Mn valence, depending on the Mn content. The fact must be taken into account that a change of the valence state of the activator is connected with changes in the phase composition. The authors were also able to show that when sintering the solid solution (Zn, Mn)O with high Mn content in oxygen, these single-phase systems undergo lamination: Besides the (Zn, Mn)O phase (in which the Mn content is reduced), also manganese oxide is observable in the microscope. There are 1 figure, 1 table, and 2 Soviet-bloc references.

Люминофор	1) Цвет свечения	2) Условия прокаливания	$B^*_{1/2}$	Валентность 3)
$(Sr, Mg)_3(PO_4)_2$ — Sn	Оранжевый 4)	1200° в NH_3	0,56	2
$Ba_2P_2O_7$ — Sn	Розовый 5)	1000° в NH_3	0,56	2
$Sr_2P_2O_7$ — Sn	Голубой 6)	1000° в NH_3	0,56	2
$(Mg, Ca)_3PO_4F$ — Sn	Фиолетовый 7)	1000° в воздухе	0,56	2
$(Mg, Ba)_3PO_4F$ — Sn	Желтый 8)	950° в воздухе	0,56	2

Legend to Table 1:
1) luminescence color;
2) sintering conditions;
3) valence; 4) orange;
5) pink; 6) blue;
7) violet; 8) yellow.

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24.3500

S/048/61/025/004/005/048
B104/B201

AUTHORS: Gorbacheva, N. A., Gugel', B. M., Konstantinova-Shlezinger, M. A., Lapir, Ye. S., and Rutshteyn, T. G.

TITLE: Phosphate luminophores for luminescent lamps with improved light emission

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 4, 1961, 455-458

TEXT: The present paper has been read at the 9th Conference on Luminescence (Crystal Phosphors), Kiyev, June 20-25, 1960. In addition to the requirement that luminophores should have a "white" spectrum, also that of the quantum yield to be as high as possible should be satisfied. Barium-titanium-phosphate (BTP) and strontium-magnesium-phosphate (SMP), which satisfy these requirements best, are the object of the present study. The temperature stability of SMP was improved by the introduction of B_2O_3 to such an extent as to make it suitable for correcting the color of high pressure Hg lamps. BTP was prepared by a three-hour sintering of a

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B104/B201

Phosphate luminophores for...

mixture of $BaHPO_4$, TiO_2, and BaF_2 at 1075°C. Data regarding the brightness and the stability of luminescence of the specimens concerned are presented in Tables 1 and 2. As may be seen from Table 1, Mn acts as an extinguisher. The spectral composition of emission is shown in Fig. 1. As may be noted from the tables, a BaO excess reduces brightness strongly, whereas a P_2O_5 excess (up to 5 mole%) has no effect whatever. A BaO excess leads to the formation of $4BaO:3TiO_2 \cdot P_2O_2$, whereby the activator concentration is reduced. It is found, furthermore, that the introduction of BaO first causes stability to be reduced, and not to increase again until a certain concentration is attained. SMP was prepared by three different sintering methods from mixtures $SrCO_3$, $MgCO_3$, $(NH_4)_2HPO_4$, and SnO_2.

1) One-hour sintering at 600°C in air, and, after grinding, renewed two-hour sintering at 1200°C, and, finally, at 1200°C for 30 minutes in NH_3.
2) Heating from room temperature to 1200°C in one hour, and a second sintering at 1200°C for 30 minutes in NH_3 or with addition of carbon.
3) Heating of phosphates and carbonates (without Sn) from 20 to 1200°C in one hour, crushing together with $H_3C \cdot SnO \cdot OH$ and sintering in a closed tube

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Phosphate luminophores for...

at 1200°C for 30 minutes. The luminophore had the composition $(Sr_{2.63}Mg_{0.34})(PO_4)_2Sn_{0.04}$. Spectra of different luminophores are graphically presented in Fig. 1. Data regarding the effect of the production method upon the luminophore quality are given in Table 2. Data of temperature stability are graphically presented in Fig. 3. 15 w luminescent lamps with improved light emission and a light temperature of 4500°K, possessing a Harrison factor of 86 % and a light yield of 34 lm w^{-1}, were prepared from a mixture of 50 % BTP and 50 % SMP. If a mixture of 70 % calcium halogen phosphate (activated with Sb) and 30 % SMP is used, a lamp with a light temperature of 6500°C, with equal Harrison factor, and equal light yield can be obtained as is the case in industrial luminescent lamps the luminophore of which is made of a mixture of 85 % calcium halogen phosphate (activated with Sb and Mn) and 15 % magnesium arsenate (activated with Mn). There are 2 figures, 2 tables, and 4 references: 1 Soviet-bloc and 3 non-Soviet-bloc.

Card 3/6

GORBACHEVA, N.A.; KONSTANTINOVA-SHLEZINGER, M.A.

Determining uranium by measuring the width of the luminescent zone in a chromatogram. Zhur. prikl. spekt. 3 no. 2:172-174 Ag '65. (MIRA 18:12)

1. Submitted Oct. 13, 1964.

ACC NR: AP7004991 SOURCE CODE: UR/0048/66/030/009/1521/1523

AUTHOR: Gorbacheva,N.A.

ORG: none

TITLE: Europium-activated and manganese-activated europium-sensitized strontium-magnesium orthophosphate luminophors /Report, Fourteenth All-Union Conference on Luminescence (Crystal Phosphors) held at Riga, 16-23 Sept. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no.9, 1966, 1521-1523

TOPIC TAGS: luminescence, strontium, magnesium phosphorus, europium, manganese, chemical reduction

ABSTRACT: The author investigated $(Sr,Mg)_3(PO_4)_2$:Eu phosphors in order to elucidate the nature of the yellow luminescence that has previously been observed in such materials and is not usually ascribed to Eu^{2+}. The materials were synthesized by heating a mixture containing $(NH_4)_2HPO_4$, Eu_2O_3, and strontium and magnesium carbonates in a molar ratio of 89.11, at 1300° C in a stream of NH_3. $Sr_3(PO_4)_2$, $Mg_3(PO_4)_3$, and $Sr,Mg_2(PO_4)_2$ were obtained as side products in varying amounts, depending on the synthesis conditions. The photoluminescence emission spectra of all these materials were recorded. The yellow luminescence was emitted when the synthesis had taken place in a rapid stream of NH_3; when the synthesis had taken place in a slow NH_3 stream there was observed a violet luminescence that is ascribed to the simul-

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ACC NR: AP7004991

taneous presence of di- and trivalent europium. X-ray studies showed that the yellow and violet luminescing materials belonged to the same high-temperature modification of strontium orthophosphate. It is therefore concluded that the yellow luminescence is due to some auxiliary microchanges. Two hypotheses are advanced to account for the yellow luminescence: 1) the europium is reduced in a strong NH_3 stream to a non-valent state; and 2) microdefects arise in the neighborhood of the Eu^{2+} centers and form new centers with these ions. Arguments for and against both these hypotheses are presented. The author favors the second hypothesis, but she points out that the two hypotheses are not mutually exclusive. Phosphate luminophors simultaneously activated with Eu and Mn are discussed briefly. By heating these materials in a reducing atmosphere one can obtain phosphors that luminesce in the red. $Mg_3(PO_4)_2$:Eu:Mn and $SrMg_2(PO_4)_2$:Eu:Mn are of technical interest because they can be strongly excited at 2537 Å. These phosphors are very temperature sensitive, however; when the reason for this has been learned, the development of the materials will be continued. The author thanks M.A.Konstantinova-Shlesinger for discussions and L.M.Tsyganov for assistance with the work.

SUB CODE: 20,07/ SUBM DATE: none ORIG. REF: 000 OTH REF: 001

Card 2/2

KALINICHENKO, I.M., inzh.; GORBACHEVA, N.S., inzh. (Krasnodar)

Construction of gas lines in Krasnodarsk Territory. Stroi. truboprov. 6 no. 2:21-22 F '61. (MIRA 14:5)
(Krasnodarsk Territory--Gas pipes)

GORBACHEVA, N.S.; PREOBRAZHENSKIY, N.G.

Asymmetric self-reversed contour of a spectral line as a source of information on the properties of a plasma. Opt. i spektr. 15 no.4:453-456 O '63. (MIRA 16:11)

KOLTYPIN, S.G., kand. tekhn. nauk; GORBACHEVA, N.V., inzh.

Laboratory analysis of samples of used oils. Ekspl.-tekh. svois. i prim. avt. top. smaz. mat. i spetszhid. no.3:76-82 '63. (MIRA 17:10)

S/081/63/000/004/033/051
B194/B180

AUTHORS: Grodzovskaya, R. I., Gorbacheva, N. V.

TITLE: Sulfonation of extracts from the selective refinement of lubricating oils

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1963, 519, abstract 4P134 (Novosti neft. i gaz. tekhn. Neftepererabotka i neftekhimiya", no. 8, 1962, 8-10)

TEXT: To obtain the de-emulsifier НЧК (NChK), solutions of diesel fuel fractions containing 10 and 30% of extracts from the purification of distillate and residual oils were sulfonated (direct sulfonation of extracts is not possible because of the high density of the resulting tar, while higher concentrations of extract in the solution cause the formation of acid sludges the consistency of which makes transportation impossible). Sulfonation was carried out with 45 and 50% H_2SO_4 at 70 - 75° in two stages, two hours in each. It was shown that the yield of NChK obtained by sulfonating a starting material containing dissolved extracts rises with the concentration of the extract. The H_2SO_4 consumption per ton NChK falls

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Sulfonation of extracts from...

correspondingly. An increase of up to 50% in the quantity of H_2SO_4 used for the starting material does not increase its specific consumption on NChK because the sulfonation is deeper. A check on laboratory results under commercial conditions has shown the NChK yield to be 50% higher and the H_2SO_4 consumption per ton of de-emulsifier more than 30% less, than when produced from dieselfuel. The salting-out in NChK obtained by sulfonating diesel fuel containing 30% extracts from distillate oil refinement (эЛОУ (ELOU)) was no worse than in NChK obtained from the conventional starting material. [Abstracter's note: Complete translation.]

Card 2/2

GORBACHEVA, N. YE.

ISAKOV, I.S., prof., admiral flota, otv.red.; PETROVSKIY, V.A., dotsent, kand.voyenno-morskikh nauk, kontr-admiral, red. [deceased]; DEMIN, L.A., dotsent, kand.geograf.nauk, inzh.-kapitan 1 ranga, glavnyy red.; BARANOV, A.N., red.; BERG, L.S., akademik, inzh.-mayor, red.; BOLOGOV, N.A., dotsent, kontr-admiral v otstavke, red.; VITVER, I.A., professor, doktor geograf.nauk, red.; GRIGOR'YEV, A.A., akademik; YEGOR'YEV, V.Ye., zasluzhennyy deyatel' nauki, prof., doktor voyenno-morskikh nauk, kontr-admiral v otstavke, red.; ZIMAN, L.Ya., prof., red.; ZUBOV, N.N., prof., doktor geograf. nauk, inzh.-kontr-admiral v otstavke, red.; KAVRAYSKIY, V.V., prof., doktor fiziko-mat.nauk, inzh.-kontr-admiral v otstavke, red.; KALESNIK, S.V., prof., doktor geograf.nauk, red.; KUDRYAVTSEV, M.K., general-leytenant tekhn.voysk, red.; LAMYKIN, S.M., kapitan 1 ranga, red.; MATUSEVICH, N.N., zasluzhennyy deyatel' nauki i tekhniki, prof., doktor fiziko-mat.nauk, inzh.-vitse-admiral v otstavke, red.; [deceased]; MESHCHANINOV, I.I., akademik, red.; MILENKI, S.G., red.; ORLOV, B.P., prof., doktor geograf.nauk, red.; PANTELEYEV, Yu.A., vitse-admiral, red.; SNEZHINSKIY, V.A., dotsent, kand.voyenno-morskikh nauk, inzh.-kapitan 1 ranga, red.; SALISHCHEV, K.A., prof., doktor tekhn.nauk, red.; TRIBUTS, V.F., admiral, red.; FOKIN, V.A., vitse-admiral, red.; SHVEDE, Ye.Ye., prof., doktor voyenno-morskikh nauk, kontr-admiral, red.; SHULEYKIN, V.V., akademik, inzh.-kapitan 1 ranga, red.; PAVLOV, V.V., inzh.-polkovnik, red.; VOLKOV, F.G.,

(Continued on next card)

ISAKOV, I.S.---(continued) Card 2.
podpolkovnik, pomoshchnik glavnogo red. po izd-vu; SEDOV, N.Ye., kapitan 2 ranga, uchenyy sekretar'; VOROB'YEV, V.I., kapitan 1 ranga, red.kart; MIGALKIN, G.A., inzh.-kapitan 1 ranga, red.kart; GAPONOVA, A.A., red.kart; GONCHAROVA, A.I., red.kart; GORBACHEVA, N.Ye., red.kart; GRYUNBERG, G.Yu., red.kart; DUROV, A.G., red. kart; YERSHOV, I.B., red.kart; ZIL'BERSHER, A.B., red.kart; KASTAL'SKAYA, N.I., red.kart; KUBLIKOVA, M.M., red.kart; MAKAROVA, V.N., red.kart; MOROZOVA, A.F., red.kart; PAVLOVA, Ye.A., red. kart; POCHUBUT, A.N., red.kart; ROMANOVA, G.N., red.kart; SMIRNOVA, L.V., red.kart; SMIRNOVA, L.N., red.kart; TANANKOVA, A.I., red. kart; YANEVICH, M.A., red.kart; YASINSKAYA, L.F., red.kart; VASIL'YEVA, Z.P., tekhn.red.; VIZIROVA, G.N., tekhn.red.; GOLOVANOVA, A.T., tekhn.red.; GOROKHOV, V.I., tekhn.red.; MALINKO, V.I., tekhn. red.; SVIDERSKAYA, G.V., tekhn.red.; CHERNOGOROVA, L.P., tekhn.red.; FURAYEVA, Ye.M., tekhn.red.

[Marine atlas] Morskoi atlas. Otv.red. I.S. Isakov. Glav.red. L.A. Demin. Izd. Morskogo general'nogo shtaba. Vol.1 [Navigation geography] Navigatsionno-geograficheskii. Zamestitel' otv. red. po I tomu V.A. Petrovskii. 1950. 83 maps. (MIRA 12:1)

(Continued on next card)

ISAKOV, I.S.---(continued) Card 3.
1. Russia (1923- U.S.S.R.) Voyenno-morskoye ministerstvo.
2. Nachal'nik Morskogo kartograficheskogo instituta voyenno-morskikh sil (for Lamykin). 3. Deystvitel'nyy chlen Akademii pedagogicheskikh nauk RSFSR (for Orlov). 4. Nachal'nik Gidrograficheskogo upravleniya voyenno-morskikh sil (for Tributs). 5. General'nyy gosudarstv. direktor topograficheskoy slushby (for Baranov). 6. Direktor topograficheskoy slushby (for Milenki).
(Ocean--Maps) (Harbors--Maps)

GOL'DENBLAT, Iosif Izrailevich; GORBACHEVA, O.S., redaktor; MURASHOVA, M.Ya., tekhnicheskiy redaktor.

[Problems of the mechanics of deforming media] Nekotorye voprosy mekhaniki deformiruemykh sred. Moskva, Gos.izd-vo tekhniko-teoret. lit-ry, 1955. 271 p. (MLRA 8:12)
(Deformations(Mechanics))

LUR'YE, Anatoliy Isaakovich; GORBACHEVA, O.S., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor.

[Spatial problems in the theory of elasticity] Prostranstvennye zadachi teorii uprugosti. Moskva, Gos.izd-vo tekhniko-teoret. lit-ry, 1955. 491 p.
(Elasticity)

KOROTEYEV, Dmitriy Vasil'yevich; NOVAK, Anatoliy Platonovich; TOROPOV, A.S., kand. tekhn. nauk, nauchn. red.; GORBACHEVA, O.S., red.

[Labor safety in preparatory operations] Bezopasnost' truda na rabotakh nulevogo tsikla. Moskva, Stroiizdat, 1965. 107 p. (MIRA 18:3)

YERMAKOV, A.I., doktor biol. nauk; YAROSH, N.P.; GORBACHEVA, R.G.

Method of determining proteins in seeds. Trudy po prikl. bot., gen.i sel. 37 no. 1:156-163 '65 (MIRA 19:1)

Gorbacheva, S. G.

ALEKSANDROVA, F.A.; GORBACHEVA, S.G.

Increasing the output of lubricant-producing installations by improving laboratory control. Proizv. smaz. mat. no.3:8-9 '57. (MIRA 10:12)

1. Pervyy Moskovskiy neftemaslozavod.
(Moscow--Lubrication and lubricants)

YEFIMOV, A.F.; GORBACHEVA, T.B.

Potassium feldspars in the alkali pegmatites of the Inaglinskiy massif. Trudy Min. muz. no.14:231-237 '63. (MIRA 16:10)

(Inaglinskiy massif—Feldspar)
(Inaglinskiy massif—Pegmatites)

L 24674-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/ECS/EWG(v)/EPR/EWP(j)/T/EWP(b)/EWA(l)
Pc-4/Pe-5/P1-4/Pr-4/Ps-4/Pt-10 RM/WW

ACCESSION NR: AP5004667 S/0191/64/000/009/0013/0017

AUTHOR: Severov, A. A.; Gorbacheva, T. B.; Lukin, B. V.; Sergeyev, V. K.

TITLE: Changes in the fine and porous structures of phenol-formaldehyde resin during rapid short-duration heating to high temperatures

SOURCE: Plasticheskiye massy, no. 9, 1964, 13-17

TOPIC TAGS: phenolic plastic, polymerization, heat effect, crystal chemistry, polymer structure

Abstract: Changes in the structure of GOST 4559-49 phenol-formaldehyde resin have been studied during rapid short-duration heating up to 2800° C. The initial resin was cured for about 20 days at 160° C; its degree of polymerization was 56.2%. The specimens were heated at rates of 10,000—20,000° C/min. Heating was conducted in increments of 100° below 1100° C and 300° above 1100° C, with a 1-min holding time at each temperature. The samples were then cooled in nitrogen. Changes in the porous structure of the specimens were studied by visual observation, micrographs, and porosity measurements based on moisture absorption. In addition, weight loss, shrinkage, and compressive

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strength of the specimens were determined. The results of the study are given in the form of micrographs and plots of porosity and weight versus temperature (see Fig. 1) and shrinkage and strength versus temperature (see Fig. 2).

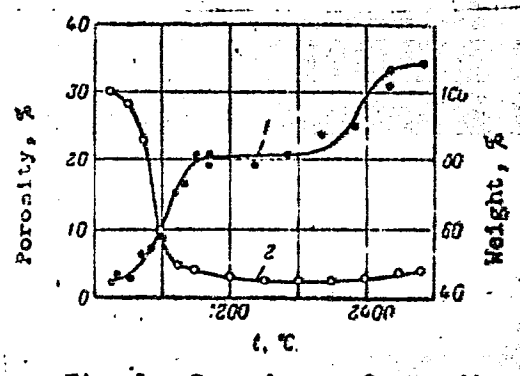

Fig. 1. Dependence of porosity (1) and weight (2) of phenol-formaldehyde resin on heating temperature.

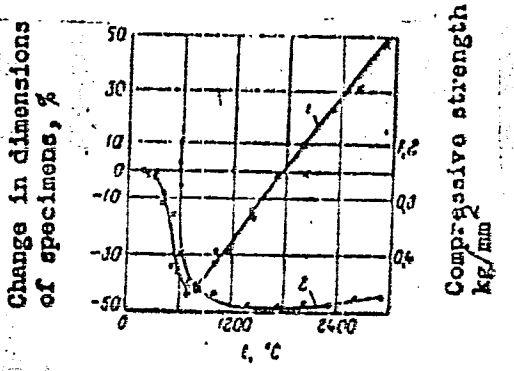

Fig. 2. Dependence of shrinkage (1) and strength of specimens of phenol-formaldehyde resin on the heating temperature

L 24674-65

ACCESSION NR: AP5004687

The results showed that: 1) Pores and cracks develop rapidly at 400—700° C as a result of the evolution of volatile pyrolysis products. The process causes considerable weight loss and shrinkage of specimens. 2) The pores continue to develop at 700—1300° C, but at a slower rate. At the same time wide cracks are formed. These cracks cannot be determined by moisture absorption, and the magnitude of the measured porosity remains unchanged up to 1900° C. 3) At 1900—2600° C, the pores continue to develop; since specimen weight remains unchanged, it is concluded that the porosity develops as a result of an increase in the density of the coke pore walls. 4) At 2600—2900° C, the pores become filled with secondary products formed by pyrolysis-product decomposition. The specimens become blocks and acquire a metallic luster, and their weight increases slightly. 5) The specimen volume increases continuously at above 700° C and attains 150% of its initial value at 2900° C. 6) The specimen compressive strength drops from its initial value of 700—2100 kg/mm^2 to 0.05 kg/mm^2 at 1700—2600° C, and then increases again at 2900° C to 0.10 kg/mm^2 owing to the deposition of secondary products which fill the pores and cracks.

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ACCESSION NR: AP5004687

The fine structure of the resin was studied by the x-ray diffraction method. The results of the study are given in the form of x-ray diffraction patterns and in the form of changes of the diffusion ring width and of interplanar spacings in the c-axis direction with temperature (see Fig. 3).

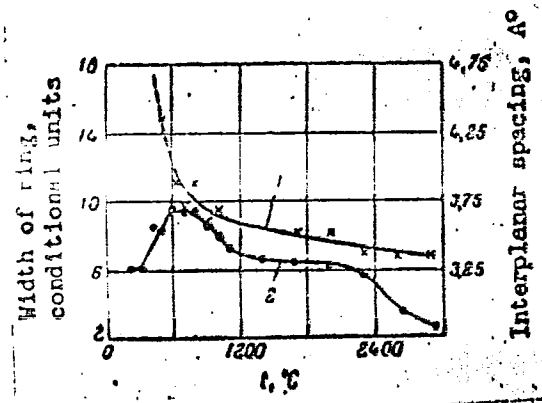

Fig. 3. Dependence of interplanar spacing and width of diffusion ring on temperature:

1) Intermolecular distance and interplanar spacing; 2) width of the diffusion ring.

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These results show that: 1) Heating of the resin to 250° C causes its further polymerization. 2) At 300—700° C, the resin degrades and coke structures are formed. 3) Above 800° C, the formation of primary and the ordering of secondary coke structures (bundles) continues; the two-dimensional coke-structure formation ends at 1200—1300° C. 4) At 1200—2300° C, slow growth of bundles continues. 5) At higher temperatures, in the pregraphitization period, the bundles begin to grow more rapidly; regions with a three-dimensional ordering (crystallites of graphite) appear at 2800° C. Thus during rapid heating graphitization begins at higher temperatures than during heating at a rate of 10° C/min with 2-hr holding periods, in which case graphitization begins at 2400° C.

COMMENT: The article is interesting as an apparent attempt to determine the character and possibly the rate of progressive thermal deterioration of a GRP binder at temperatures and heating rates comparable to those arising in missile combustion chambers or on the surface of re-entry plates. At the given heating rate, i.e., 170-330° C/sec, testing temperatures of 400-2900°C could be reached within the time required to reproduce approximately the thermal conditions to which GRP used for aerospace purposes is subjected. It is true that only the binder and not the GRP itself was tested, and that heat transfer was not

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ACCESSION NR: AP5004687

studied in this series of experiments. However, a knowledge of the charcter of the degradation of the least resistant component is essential for further research. The low compressive-strength values obtained for the coke specimens may be of importance in evaluating the crumbling of coked material which serves as a shield for the plastic which is still intact.

ASSOCIATION: none

SUBMITTED: 00	ENCL: 00	SUB CODE: MT, TD
NO REF SOV: 003	OTHER: 002	FSB v.1, no.1

Card 6/6

GORBACHEVA, T.B.; YEMEL'YANENKO, P.F.

Potash feldspar in the Inagli intrusive (Aldan Plateau). Vest.Mosk.un. Ser.4: Geol. 19 no.5:47-54 S-O '64. (MIRA 17:12)

1. Kafedra dinamicheskoy geologii Moskovskogo universiteta.

SHLIONSKIY, Sh.G.; GORBACHEVA, V.A.

Computation of the lowest applicable frequencies and other short-wave communication quantitatives by means of electronic computers. Geomag. i aer. 3 no.4: 711-716 Jl-Ag '63. (MIRA 16:11)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR.

GORBACHEVA, Varvara Alekseyevna; ZAGIK, L.V., redaktor; SOKOLOVA, R.D., [redacted] redaktor

[Developing the behavior of children in kindergartens] Formirovanie povedeniia detei v detskom sadu. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1957. 160 p. (MLRA 10:10)
(Kindergarten) (Children--Management)

GORBACHEVA, V.F.

Extermination of weeds by chemical substances. Izv. AN Turk. SSR. Ser. biol. nauk no.4:77-80 '63. (MIRA 16:9)

1. Ashkhabadskoye otdeleniye Sredneaziatskoy zheleznoy dorogi.
(Ashkhabad region--Weed control) (Herbicides)

GORBACHEVA, V. F.

GORBACHEVA, V. F.: "The physiological investigation of the functions of chewing and certain aspects of the orthopedic treatment of amphodontosis." Acad Sci USSR. Inst of Physiology imeni I.P. Pavlov. Leningrad, 1956. (Dissertation for the Degree of Candidate in Medical Sciences).

Source: Knizhnaya letopis' No. 28 1956 Moscow

GORBACHEVA, V.F.

Role of orthodontic measures in the treatment of pyorrhea alveolaris. Stomatologiia 36 no.2:59-61 Mr-Ap '57. (MLRA 10:6)

1. Iz Leningradskoy gorodskoy stomatologicheskoy poliklinik (Nauchnyy rukovoditel' - prof. I.S.Rubinov, glavnyy vrach L.M. Persashkevich)
(GUMS--DISEASES) (TEETH--ABNORMITIES AND DEFORMITIES)

GORBACHEVA, V.F.

[redacted] treatment of pyorrhea alveolaris and changes in mastication related to it. Stomatologiia 37 no.5:52-56 S-O '58 (MIRA 11:11)

1. Iz 1-y stomatologicheskoy poliklinik Leningrada (nauchnyy rukovoditel' - prof. I.S. Rubinov, glavnyy vrach L.M. Persashkevich).
(GUMS--DISEASES)
(MASTICATION)

GORBACHEVA, V.F.

Dynamics of the change in mastication in the process of orthopedic treatment of parodontosis (amphodontosis). Trudy LSGMI 63:71-80 '60. (MIRA 15:1)

(GUMS--DISEASES) (MASTICATION)

GORBACHEVA, V.F.

Growing planting stock in the sandy nurseries of the Turkmen S.S.R. Izv. AN Turk. SSR. Ser. biol. nauk no.1:77-80 '64. (MIRA 17:9)

GORBACHEVA, V.F.

Binding sandy soils with polyacrylamide emulsion. Izv. AN Turk. SSSR. Ser. biol. nauk no.2:57-60 '64. (MIRA 17:6)

1. Ashkhabadskoye otdeleniye Sredneaziatskoy zheleznoy dorogi.

GORBACHEVA, V.I., fel'dsher (Tyazhinskiy rayon Kemerovskoy oblasti)

Care of children and women in a logging camp. Fel'd. i akush. 27 no.12:41-42 D'62. (MIRA 16:7)
(TYAZHISNKIY DISTRICT--CHILDREN--CARE AND HYEGIENE)
(TYAZHINSKIY DISTRICT--WOMEN--HEALTH AND HYGIENE)

GORBACHEVA, V. O.

AUTHOR: Gorbacheva, V.O., and Mikhaylov, N.V. 69-20-1-6/20

TITLE: Structure and Phase State of Polyethylene Terephthalate Fibers (O strukture i fazovom sostoyanii volokon iz polietilentereftalata)

PERIODICAL: Kolloidnyy Zhurnal, 1958, Vol. XX, # 1, pp 38-42 (USSR)

ABSTRACT: Polyethylene terephthalate is a new polymer, which has been widely used in industry lately. It is employed in the production of synthetic fibers, films and plastics. It is resistant to acids, oxygen, light, bacteria, has a low permeability for gases and a sufficient mechanical resistance at various temperatures. In the article the structure of polyethylene terephthalate and fibers made from it by various processes are investigated. The specimens under investigation have a viscosity of 0.24-0.27. The fiber made from it was spun at 285°C and was stretched at 80-100°C to 550%. X-ray and thermographic analyses were made. Fig. 1 a, shows the roentgenogram of polyethylene terephthalate in the form of a solid transparent mass. This roentgenogram shows the unstretched fiber. The roentgen picture of both specimens is the same and is characterized by a broad interference, which is an indication of

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Structure and Phase State of Polyethylene Terephthalate Fibers

the amorphous structure of the substance. The phase state alone is no sufficient criteria for determining the structure of a polymer. The thermographic method of phase analysis was therefore also used. In fig. 2 a, the differential curves of heating and cooling of the initial polyethylene terephthalate. The thermographic picture changes, if the initial polymer and the unstretched fiber are preliminarily heated and the fiber stretched at increased temperature. In fig. 2 b, the thermograms of such specimens are presented. During heating of the polymer devitrification takes place and the kinetic energy of the links is increased. During devitrification or after it, in the solid state of the substance, crystallization takes place. In the heating curve, therefore, an exothermic effect in the temperature interval 105-150°C is observed (Fig. 2 a, area B). The obtained thermographic data was used for determining the melting heat of polyethylene terephthalate, which is 9-11 kcal/g. The crystallization of the polymer takes place at temperatures of 80-110°C.

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MIKHAYLOV, N.V.; BUKOV, G.A.; GOMBACHEVA, V.O.; MAKAROVA, T.P.; v rabote prinimali uchastiye: LARIONOV, P.E.; SOROKINA, V.I.; ZOTOV, Ya.E.

Studying the formation mechanism of synthetic fibers from molten materials. Khim.volok. no.1:33-36 '59. (MIRA 12:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

(Textile fibers, Synthetic)

MIKHAYLOV, N.V.; FAYNBERG, E.Z.; GORBACHEVA, V.O.

Study of the molecular structure of stereoregular polymers. Isotatic polypropylene. Vysokom.soed. 1 no.1:143-148 Ja '59. (MIRA 12:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.
(Polymers) (Propene)

MIKHAYLOV, N.V.; SHEYN, T.I.; GORBACHEVA, V.O.; TOPCHIBASHEVA, V.N.; v rabote prinimali uchastiye [illegible] laboranty; LARIONOV, P.M.; VLASOVA, L.P.; MURASHKINA, S.I.

Investigating the molecular structure of synthetic fibers. Part 14: Physicochemical and physicomechanical properties of the polycapramide - polyundecanamide polyamide group. Vysokom. soed. 1 no.2:185-190 F '59. (MIRA 12:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.
(Textile fibers, Synthetic) (Amides)

MIKHAYLOV, N.V.; ZAV'YALOVA, N.N.; GORBACHEVA, V.O.

Gradient method of determining the specific gravity of synthetic fibers. Khim.volok. no.1:19-22 '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.
(Textile fibers, Synthetic) (Specific gravity)

S/183/60/000/005/007/007
B028/B054

AUTHORS: Demina, N. V., Gorbacheva, V. O., Kotina, V. Ye., Ukhanova, Z. V.

TITLE: Properties of Chemical Fibers

PERIODICAL: Khimicheskiye volokna, 1960, No. 5, pp. 40-41

TEXT: This paper describes testing methods for chemical fibers. All mechanical properties of fibers were tested at an air moisture of 65±1% and an air temperature of 20±2°. The following testing methods are indicated: 1) Control of stability and elongation of threads on pendulum-type tensile-testing machines at a distance of 500 mm between the strainers and an average time until breaking of 15 sec. ГОСТ 6611-55 (GOST 6611-55). Impact tensile-testing machines were used for staple fibers. 2) The deformation (expansion) modulus was determined from the ratio between load and relative deformation for threads elongated by 3%. 3) Elasticity of threads was tested by a dynamometer. Threads were stretched by 4% and 10% of their original length, left in this state for one minute, and relaxed for one minute; the remaining elongation was measured.

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4) The shearing modulus was checked by torsional vibrations with a КМ-20 (KM-20) pendulum-disk device. 5) Bending-stress durability was tested with a ДТ-15 (DP-15) device at 110 cycles per minute and a stress of 5 kg/mm^2. A "Sinus" device was used for elementary fibers at a stress of 10 kg/mm^2. 6) Wear resistance was tested by grinding a thread until breaking on a corundum disk at 160 rpm. 7) Stability to ultraviolet light was determined by 20 hours' irradiation with a ПРК-2 (PRK-2) mercury vapor lamp. 8) The elasticity of the fiber mass was tested in a cylinder by volume change under a load of 70 kg for 60 min. Relaxation lasted 30 min; the remaining volume was measured. 9) Moisture content of the fiber by absolute drying in a drying chamber at 105-110°C (chlorine fibers at 70°C). The material had been previously stored for some time at an air moisture of 65% and a temperature of 20±2°C. Data are given in % referred to the total dry substance. 10) The specific heat was determined by an adiabatic calorimeter. 11) A differential thermal analysis yielded data on the temperature range of melts and crystallization. A table comprising 14 pages lists results and X-ray patterns of fibers of viscose, acetate cellulose, caprone, anide, enanth, pelargone, undecane, polyamides,

Properties of Chemical Fibers

S/183/60/000/005/007/007
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polyesters, polyolefins, chlorine, polyphene, nitron, acrylonitrile, acetochlorine, and vinitrone. The laboratory assistants A. V. Poluyanova, T. I. Negina, and Ye. P. D'yakova cooperated in the investigations. There are 1 table and 6 Soviet references.

ASSOCIATION: VNIIV (All-Union Scientific Research Institute of Synthetic Fibers)

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DEMINA, N.V.; GORBACHEVA, V.O.; KOTINA, V.Ye.; UKHANOVA, Z.V.

Properties of synthetic fibers. Khim.volok. no.5:40-55 '60.
(MIRA 13:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

(Textile fibers, Synthetic)

MIKHAYLOV, N.V.; GORBACHEVA, V.O.; KOVALEVA, V.P.; KLYUYEVA, O.A.

Structure of polyamides obtained by interfacial polycondensation. Vysokom. soed. 2 no.8:1283-1286 Ag'60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

(Polyamides)

S/190/62/004/002/011/021
B110/B101

AUTHORS: Mikhaylov, N. V., Faynberg, E. Z., Gorbacheva, V. O., Ch'eng Ch'ing-hai

TITLE: Compatibility of the system polyethylene - polypropylene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962, 237 - 241

TEXT: A method of combining polyhydrocarbons from their solutions has been developed. A mixture of low-density polyethylene (PE) and isotactic polypropylene (PP) was produced via o-xylene or white spirit or melt with different PE : PP ratios. Dissolution took 40 - 50 min at t = 160 - 165°C (total concentration = 0.1; 0.5; 5%). The precipitate formed by cooling to 80 - 85°C was eluted with acetone to remove the solvent. The physico-chemical properties of polymer mixtures were studied by (a) differential thermal analysis; (b) thermochemically; (c) density measurement. The endothermic effects of the heating curves for pure polymers and copolymers correspond to the temperature range of melting. The two endothermic effects of the curves for polymer mixtures correspond to the temperature range of

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Compatibility of the system...

the transition of pure polymers, and only for mixtures 7.5 : 2.5; 8 : 2; 9 : 1; 9.5 : 0.5; and 9.8 : 0.2, they showed only one endothermic effect, like the curves for the initial polymers. The concentration range of compatibility is limited; concentration decrease of PE and increase of PP effect demixing. Since the temperature range of melting of copolymers only differs by 15 - 18°C from that of pure PE, the difference should be even smaller for combined mixtures. This also agrees with Flory's idea on the decrease of the melting point when plasticizing one polymer by another (low- or high-molecular). Comparisons of the heat capacity with the values of the copolymer are used as a criterion for the degree of combination of polymer mixtures. The heat capacities of pure homopolymers are close to each other, and strongly differ from those of copolymers. The polymer mixture 8 : 2 has maximum heat capacity and optimum compatibility. Minimum density (0.915) of the copolymer corresponds to maximum heat capacity (0.500). The copolymer has a lower than the additive density, and thus a molecular packing of lower density. The density of all combined mixtures is lower than the additive value. The mixture 7.5 : 2.5 shows maximum deviation. This proves a plasticizing effect of PE on PP owing to higher flexibility of the polymer chains of PE. This effects a decrease in stiffness of PP, and facilitates its compatibility with PE. There are

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000516030003-3"

3 figures, 2 tables, and 3 references: 2 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: R. Kee, J. Polymer Sci., 42, 15, 1960.

ASSOCIATION: Nauchno-issledovatel'skiy institut iskusstvennogo volokna (Scientific Research Institute of Synthetic Fibers)

SUBMITTED: February 9, 1961

AFANAS'YEVA, G.N.; VOL'F. L.A.; MEOS, A.I.; GORBACHEVA, V.O.; MIKHAYLOV, N.V.; MIL'KOVA, L.P.

Thermoplasticization stretching of polyvinyl alcohol fibers. Khim. volok. no.5:16-19 '63. (MIRA 16:10)

1. Leningradskiy tekstil'nyy institut imeni S.M. Kirova (for Afanas'yeva, Vol'f, Meos). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (for Gorbacheva, Mikhaylov, (Mil'kova).

MIKHAYLOV, N.V.; GORBACHEVA, V.O.; KHAIT, E.V.; KACHANYUK, Yu.K.; KHOKHLOVA, N.S.

Molecular structure and the physicomechanical properties of polyamide cord. Khim. volok. no.4:26-28 '63. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

MIKHAYLOV, N.V.; GORBACHEVA, V.O.; IYEVLEVA, A.K.

Determination of the specific volumes of synthetic fibers at elevated temperatures. Khim. volok. no.5:26-28 '63. (MIRA 16:10)

1. Vsesoyuznyy nauchn-issledovatel'skiy institut iskusstvennogo volokna.

GORBACHEVA, V.O.; KRASOVA, I.I.; TOKAREVA, L.G.; POTEMKINA, Z.I.; MIKHAYLOV, N.V.

Morphological characteristics of a stabilized capron fiber. Khim. volok. no.3:19-23 '64. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

KULIKOV, K.N.; GORBACHEVA, V.O.

Tensiometer for measuring the tension in moving threads. Khim. volok. no.4:63-64 '64. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

L 15708-65 EWA(v)/EWT(m)/EWP(j)/T Pc-4/Pe-5 ASD-3/ESD(t)/SSD/APWL/ASD(m)-3
RM
ACCESSION NR: AP4046263 S/0183/64/000/005/0022/0026

AUTHOR: Mikhaylov, N. V.; Gorbacheva, V. O.; Ayzenshteyn, E. M.; Khokhlova, N. S.; Petukhov, B. V. B

TITLE: The influence of molecular weight upon the structure and properties of lavsan 15

SOURCE: Khimicheskiye volokna, no. 5, 1964, 22-26

TOPIC TAGS: synthetic fiber, polyester fiber, polyethylene terephthalate fiber, molecular weight, fiber structure, fiber property, lavsan, polymer crystallization, polymer amorphization, polymer orientation

ABSTRACT: The relation between structure and molecular weight was investigated for lavsan, a polyester fiber, and a fiber from polyethylene terephthalate (PETP) for the purpose of improving the properties of polyester fibers; PETP resembles lavsan at certain stages. Crystallization kinetics, orientation and morphology were determined. Polymers with a 16-30,000 molecular weight and

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L 15708-65
ACCESSION NR: AP4046263

fibers of 17-25,000 molecular weight were investigated; the methods for determining molecular weight and properties are enumerated. Dilatometric curves between 40-140C and density measurements showed that an increase in molecular weight decreased polymer tendency to crystallization. The higher the molecular weight, the broader the interval of the glassforming range (51-96C). Amorphization of PETP increased with increasing molecular weight. So did the coefficient ($\alpha = \frac{\Delta n}{\Delta n_f}$) (double refraction index) for determining the orientation of the isotropic fiber. The same applied to lavsan. Fiber strength paralleled molecular weight; [illegible] was obtained at higher temperatures. Data on swelling and dissolution in [illegible] sulfuric acid showed fibers with higher molecular weight more resistant [illegible] of the acid. Such conditions of structural formation provide good [illegible]ties for obtaining lavsan fibers of great strength. Orig. art. has: 7 figures and 1 table.

ASSOCIATION: VNIIV

SUBMITTED: 03Aug63 ENCL: 00
SUB CODE: MT, GC NO REF SOV: 010 OTHER: 004

Card 2/2

GORBACHEVA, V.O.; MIKAHYLOV, N.V.

Differential-thermal analysis of polymers. Vysokom.soed. 7 no.1:28-32 Ja '65. (MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

KHAKIMOVA, A.Kh.; KUDRYAVTSEV, G.I.; VASIL'YEVA-SOKOLOVA, Ye.A.; GORBACHEVA, V.O.

Production of cross-linked polyamide fibers. Khim. volok. no.6: 29-32 '65. (MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna. Submitted April 27, 1965.

L 37202-66 EWT(m)/EWP(j)/T RM

ACC NR: AP6012418 (A) SOURCE CODE: UR/0183/65/000/006/0029/0032

AUTHOR: Khakimova, A. Kh.; Kudryavtsev, G. I.; Vasil'yeva-Sokolova, Ye. A.; Gorbacheva, V. O.

ORG: VNIIV

TITLE: Preparation of cross-linked polyamide fibers

SOURCE: Khimicheskiye volokna, no. 6, 1965, 29-32

TOPIC TAGS: synthetic fiber, polyamide, polymer structure, IR spectrum, chemical bonding, tensile strength, chemical reaction

ABSTRACT: The process of forming intermolecular bonds in polyamide fibers by reacting with formaldehyde was investigated. Of the acid, neutral and basic catalysts examined, boric acid promoted the best cross-linkages and highest fiber strength. Fibers were impregnated with an alcoholic solution of the catalyst, dried and placed in a reactor where they were exposed to a stream of nitrogen and formaldehyde at 135-140°C for 30-120 minutes. The catalyst was then extracted with methanol. Introduction of chemical bonds between the polyamide chains improved deformation properties of the fibers at elevated temperatures,

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ACC NR: AP6012418

reduced solubility, increased zero strength temperature, and doubled heat stability. Data from a chemical method worked out for determining the number of cross-linkages in structured fiber agreed with IR data on the number of substituted amide groups found. A relationship between the number of cross-linkages formed and the properties of these fibers was established. As the degree of cross-linking increases, physical phenomena occur which are associated with change in the density of the molecular packing in the fiber. The authors thank I. O. Novak and Ye. A. Ivanov (LFTI) for conducting IR specroscopic studies on samples of cross-linked fibers. Orig. art. has: 3 tables and 4 figures.

SUB CODE: 07,11/ SUBM DATE: 27Apr65/ ORIG REF: 002/ OTH REF: 012

Card 2/2 mcp

LI, K.A.; KAN, Ye.K.; GORDACHEVA, V.P.; FILIPCHUK, B.A.

New data on the geological structure of the northern borderland of the Caspian Lowland and prospects of its gas and oil content. Geol. nefti i gaza 9 no.1:16-18 Ja '65. (MIRA 18:3)

MEDYANTSEVA, L.L.; GORBACHEVA, V.V.

Initial method for controlling large first-grade check rules. Izm.tekh. no.11:17-18 N '61. (MIRA 14:11)
(Gauges)

MEDYANTSEVA, L.L.; GORBACHEVA, V.V.

Using the method of microleveling for increasing the efficiency of the chekc of rectilinearity. Izm.tekh. no.8:22-23 Ag '62. (MIRA 16:4)

(Leveling)

L 44067-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6030629 (A,N) SOURCE CODE: UR/0413/66/000/016/0125/0125

INVENTOR: Kakovina, V. G.; Gorbacheva, V. V.; Levina, V. K.

ORG: none

TITLE: A method of removing scale from the surface of titanium or its alloys. Class 48, No. 185163 [announced by the Progress Plant (Zavod "Progress")]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 125

TOPIC TAGS: titanium, titanium alloy, titanium electrochemical pickling, titanium alloy electrochemical pickling

ABSTRACT: This Author Certificate introduces a method for removing scale from the surface of titanium or its alloys by electrolytic pickling in acid solutions containing sodium fluoride. To improve the surface quality, pickling is done in an electrolyte containing (g/l) 400—500 orthophosphoric acid, 30—40 nitric acid, 40—60 sodium fluoride or 180—200 sulphuric acid, 45—50 sodium fluoride, with an initial anodic current density of 1.0—5 a/dm^2, at a temperature of 40—50C for removing scale which was formed below 700C, or at 70—80C for removing scale which was formed above 700C. [WW]

SUB CODE: 11/ SUBM DATE: 01Mar65/ ATD PRESS: 5075

Card 1/1 UDC: 621.357.8.:669.295